WHAT IS CLAIMED IS:

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1. A coding device for coding an input
signal, said coding device dividing the input signal
into temporally continuous frames each including a
predetermined number of discrete temporal samples,
10 the coding device comprising:
a dividing unit configured to divide each
of the frames into one or more blocks, said dividing
unit dividing each of the frames using a plurality
of block combinations;
15 a coding unit configured to code each of
the blocks at a plurality of bit rates and generate
a plurality of block code sequences; and
a determination unit configured to select
a frame code sequence corresponding to one of the
20 block combinations so that the selected frame code
sequence has optimum quality and that an average bit
rate for coding the corresponding block combination
is not higher than a predetermined bit rate, said
determination unit selecting the frame code sequence
25 by determining the block lengths of the respective
blocks in the corresponding block combination and
determining the bit rates for coding the respective
blocks in the corresponding block combination.

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2. The coding device as claimed in claim

1, further comprising:

    a coding quality evaluation unit
configured to determine data of quality of each of
frame code sequences corresponding to the respective
5   block combinations; and

    an output unit configured to output the
selected frame code sequence.

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    3. The coding device as claimed in claim
2, wherein

    the coding quality evaluation unit
15   calculates a sum of data of quality of the block
code sequence corresponding to one of the blocks to
be coded and the data of quality of the block code
sequences corresponding to blocks prior to the one
of the blocks to be coded; and
20   the determination unit uses the sum of the
data of quality in determination of the block
lengths and the bit rates.

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    4. The coding device as claimed in claim
2, wherein the determination unit determines the
block lengths and the bit rates using the Viterbi
30   algorithm.

5. The coding device as claimed in claim 2, wherein

the data of quality includes an electric power of a difference between a signal obtained by decoding one of the frame code sequences and a corresponding portion in the input signal; and

the determined block lengths and the bit rates make the electric power of the difference substantially a minimum.

6. The coding device as claimed in claim 2, wherein the data of quality includes a signal-to-noise-ratio of a signal obtained by decoding one of the frame code sequences; and

the determined block lengths and the bit rates make the signal-to-noise-ratio substantially a maximum.

7. The coding device as claimed in claim 2, wherein a weighting factor determined by human perceiving characteristics is applied to the data of quality.

8.   The coding device as claimed in claim 2, wherein

the output unit appends data of the block lengths and the bit rates to the selected frame code
5   sequence.

10   9.   The coding device as claimed in claim 8, wherein

the output unit appends the data of the block lengths and the bit rates to the corresponding block code sequences in the selected frame code
15   sequence, respectively.

20   10.   A decoding device for decoding an input code sequence obtained by coding an input signal, said input signal being divided into temporally continuous frames each including a predetermined number of discrete temporal samples,
25   and each of the frames being divided into one or more blocks for coding, the decoding device comprising:

an information extracting unit configured to extract data of block lengths of the respective
30   blocks, and data of bit rates for coding the respective blocks from the input code sequence; and

a decoding unit configured to decode the input code sequence according to the extracted data

of the block lengths and the data of the bit rates.

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11. The decoding device as claimed in claim 10, wherein the data of the block lengths and the data of the bit rates are appended to the input code sequence.

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12. The decoding device as claimed in claim 11, wherein

the input code sequence includes one or more block code sequences obtained by coding the respective blocks; and

the data of the block lengths and the data of the bit rates are appended to the block code sequences, respectively.

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13. A coding method for coding an input signal, wherein the input signal is divided into temporally continuous frames each including a predetermined number of discrete temporal samples, the coding method comprising:

a first step of dividing each of the frames into one or more blocks, said each of the frames being divided by using a plurality of block

combinations;

a second step of coding each of the blocks
at a plurality of bit rates and generating a
plurality of block code sequences; and

5   a third step of selecting a frame code
sequence corresponding to one of the block
combinations so that the selected frame code
sequence has optimum quality and that an average bit
rate for coding the corresponding block combination
10   is not higher than a predetermined bit rate, said
selected frame code sequence being selected by
determining the block lengths of the respective
blocks in the corresponding block combination and
the bit rates for coding the respective blocks in
15   the corresponding block combination.

20   14.   The coding method as claimed in claim
13, further comprising:
a step, before the third step, of
determining data of quality of each of frame code
sequences corresponding to the respective block
25   combinations; and
a step, after the third step, of
outputting the selected frame code sequence.

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15.   A decoding method for decoding an
input code sequence obtained by coding an input

signal, said input signal being divided into temporally continuous frames each including a predetermined number of discrete temporal samples, and each of the frames being divided into one or

5   more blocks for coding, the decoding method comprising the steps of:

extracting data of block lengths of the respective blocks and data of bit rates for coding the respective blocks; and

10   decoding the input code sequence according to the extracted data of the block lengths and the data of the bit rates.